

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for receiving input ideographic characters sequences entered by a user and generating a phrase comprising one or more ideographic characters as an output comprising the steps of:

(a) entering an input sequence into a user input device, wherein said user input device comprises:

a reduced keyboard input device having a plurality of input means, each being associated with at least one of a plurality of strokes and a plurality of phonetic characters, an input sequence being generated each time when an input means is selected by a user, into said user input device, wherein said user selection of said input means is alternatively associated with at least one said plurality of strokes and said plurality of phonetics characters; wherein the generated input sequence has an interpretation that is ambiguous due to the plurality of strokes or phonetic characters associated with each input means;

~~wherein one of said input sequence is associated with a special wild card input that is associated with zero or one of any said stroke and said phonetic characters;~~

~~data comprising a plurality of input sequences and, associated with each input sequence, an input method specific database containing a plurality of input sequences and, associated with each sequence, at least one of a set of phonetic stroke sequences whose spellings correspond to the input sequence corresponding to input sequences and a set of phonetic stroke sequences corresponding to the input sequences; and~~

~~an ideographic sequence database associated with both phonetic input and stroke input sequences and phonetic sequences, said ideographic sequence database containing a set of ideographic character sequences, wherein each each sequence representing a phrase comprising two or more ideographic characters contains an ideographic index a plurality of stroke indices to corresponding stroke sequences and a plurality of phonetic indices to corresponding phonetic sequences,~~

(b) comparing the an input sequence with using said input method specific database and finding ~~at least one any of~~ or more stroke or phonetic sequences corresponding to the input sequence

~~stroke indices corresponding to matching stroke entries, and;~~

5 ~~phonetic indices corresponding to matching phonetic entries;~~

(c) ~~converting at least one said matching~~ found stroke or phonetic sequences to one or more corresponding sequences representing phrases comprising two or more ideographic characters using said ideographic sequence database; and indices to associated with said
10 ~~matching stroke entries to matching ideographic indices; and~~

~~said matching phonetic indices associated with said matching phonetic entries to matching ideographic indices; and~~

(d) ~~retrieving matching ideographic character sequences from said~~
15 ~~ideographic database by said matching ideographic indices~~ displaying one or more found stroke or phonetic sequences, and one or more phrases corresponding to said found stroke or phonetic sequences of ideographic characters.

20 2. (cancelled)

3. (Original) The method of Claim 2, wherein said stroke input system is a five-stroke or an eight-stroke system.

25 4. (Previously Amended) The method of Claim 1, further comprising the step of:

optionally displaying one or more of said matched ideographic character sequences.

30 5. (Original) The method of Claim 4, wherein said phonetic input system is a Pinyin system or a Zhuyin system.

6. (cancelled) .

7. (Original) The method of Claim 1, further comprising the step of:

5 prioritizing stroke or phonetic sequences that match an input sequence
and prioritizing ideographic character sequences that match a stroke or phonetic
sequence according to a linguistic model.

8. (Original) The method of Claim 7, wherein said linguistic model comprises at
10 least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of a radical;

alphabetical order;

15 frequency of occurrence of ideographic character sequences, stroke
sequences or phonetic sequences in formal, conversational written, or
conversational spoken text;

frequency of occurrence of ideographic character sequences, stroke
sequences or phonetic sequences when following a preceding character or
20 characters;

grammar of the surrounding sentence;

application context of current input sequence entry; and

recency of use or repeated use of stroke, phonetic or ideographic
character sequences by the user or within an application program.

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9. (Original) The method of Claim 1, wherein said phonetic sequences comprise
single syllables.

10. (Original) The method of Claim 1, wherein said phonetic sequences
30 comprise single and multiple syllables.

11. (Original) The method of Claim 1, wherein said phonetic sequences comprise user generated sequences.

5 12. (Original) The method of Claim 11, wherein in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences.

10 13. (Original) The method of Claim 12, wherein said sequence of matching phonetic sequences is narrowed down through user interaction.

14. (Original) The method of Claim 12, wherein a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences.

15 15. (Original) The method of Claim 14, wherein a sequence of matching ideographic character sequences is narrowed down through user interaction.

16. (Original) The method of Claim 7, further comprising the step of:
20 once an ideographic character sequence is selected, changing the associated priority of said matching phonetic sequence and sequence of ideographic characters.

25 17. (Original) The method of Claim 1, wherein the user can specify an explicit ideographic character separator.

18. (Original) The method of Claim 1, further comprising the step of:
when the user enters a sequence of phonetic characters, returning a
sequence of phonetic sequences of exact matches and predictions that partially
30 match.

19. (Original) The method of Claim 18, wherein said sequence of phonetic sequences is ordered according to a linguistic model.

20. (Original) The method of Claim 19, wherein said linguistic model comprises at least one of:

5 alphabetical order;
 frequency of occurrence of phonetic sequences or ideographic character sequences in formal or conversational written text;
 frequency of occurrence of phonetic sequences or ideographic when
10 following a preceding character or characters;
 grammar of the surrounding sentence;
 application context of current character sequence entry; and
 recency of use or repeated use of phonetic sequences by the user or
within an application program.

15 21. (Original) The method of Claim 1, further comprising the step of:

 once the user has selected a sequence of ideographic characters,
presenting the user with a list of sequences of one or more ideographic
characters.

20 22. (Original) The method of Claim 21, wherein said list of sequences is ordered according to a linguistic model.

23. (Original) The method of Claim 22, wherein said linguistic model comprises at least one of:

25 number of total keystrokes in an ideograph;
 radical of an ideograph;
 radical and number of strokes of radical;
 alphabetical order;
30 frequency of occurrence of ideographic characters in formal or conversational written text;

frequency of occurrence of ideographic characters when following a preceding character or characters;

grammar of the surrounding sentence;

application context of current character entry; and

5 recency of use or repeated use of ideographic characters by the user or within an application program.

24. (Original) The method of Claim 1, wherein the user can enter partial syllables for each of the multiple syllable words.

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25. (Currently Amended) The method of Claim 24, wherein the number of partial keystrokes for each partial syllable is one.

26. (cancelled)

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27. (Original) The method of Claim 1, wherein one of said plurality of inputs is associated with a special wildcard input that is associated with zero or one of said phonetic characters.

20 28. (cancelled)

29. (Currently Amended) A system for receiving input sequences entered by a user and generating a phrase comprising one or more ideographic characters as an output, said system comprising:

25 a reduced keyboard input device having a plurality of input means, each of said input means being associated with at least one of a plurality of strokes and a plurality of phonetic characters, an input sequence being generated each time an input means is selected by said user, wherein the generated input sequence has an interpretation that is ambiguous due to the plurality of strokes
30 or phonetic characters associated with each input means;

an input method specific database containing at least one of a set of stroke sequences corresponding to input sequences and a set of phonetic sequences corresponding to input sequences;

an ideographic sequence database associated with both stroke sequences and phonetic sequences, said ideographic sequence database containing a set of sequences, each sequence representing a phrase comprising two or more ideographic;

means for comparing an input sequence using said input method specific database and finding one or more stroke or phonetic sequences corresponding to the input sequence;

means for converting said found stroke or phonetic sequences to one or more corresponding sequences representing phrases comprising two or more ideographic characters using said ideographic sequence database; and

an output device for displaying one or more found stroke or phonetic sequences, and one or more phrases corresponding to said found stroke or phonetic sequences.

~~A system for receiving input sequences entered by a user and generating textual output in Chinese language, said system comprising: a phrase comprising one or more ideographic characters as an output, said system comprising:~~

~~a user input device having a plurality of input means, each of said input means being associated with at least one of a plurality of strokes and a plurality of phonetic characters, an input sequences being generated each time when an input means is selected by said user into said user input device, wherein said user selection of said input means is alternatively associated with at least one of said plurality of strokes and said plurality of phonetic characters;~~

~~an input method specific database containing a plurality of input sequences and, associated with each input sequence, at least one of a set of phonetic sequences whose spellings correspond to the input sequences and a set of stroke sequences corresponding to the input sequence;~~

~~an ideographic database associated with both phonetic input and stroke input, said ideographic database containing a set of ideographic character sequences associated with a set of ideographic indices, wherein said set of ideographic indices correspond to both a plurality of phonetic indices having~~
5 ~~corresponding stroke sequences and a plurality of phonetic indices having corresponding phonetic sequences;~~

~~means for comparing the input sequence with said input method specific database and finding at least one of:~~

10 ~~stroke indices corresponding to matching stroke entries, and
phonetic indices corresponding to matching phonetic entries;~~

~~means for converting at least one of:~~

~~said matching stroke indices to associated with said matching stroke entries to matching ideographic indices; and~~

15 ~~said matching phonetic indices associated with said matching
phonetic entries to matching ideographic indices;~~

~~means for retrieving matching ideographic character sequences from said ideographic database by said matching ideographic indices; and~~

~~an output device for displaying one or more matched stroke or phonetic entries, and matched ideographic characters.~~

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30. (cancelled) .

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31. (Original) The system of Claim 29, wherein said stroke input system is 5-stroke or 8-stroke system.

32. (cancelled)

33. (Currently Amended) The system of Claim 32, wherein said phonetic input system is a Pinyin system or a Zhuyin system.

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34. (cancelled) .

35. (Currently Amended) The system of Claim 29, further comprising:

10 means for prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a matching stroke or phonetic sequence according to a linguistic model.

36. (Currently Amended) The system of Claim 35, wherein said linguistic model comprises at least one of:

15 number of total keystrokes in an ideograph;
radical of an ideograph;
radical and number of strokes of radical;
alphabetical order;
frequency of occurrence of ideographic character sequences, stroke
20 sequences or phonetic sequences in formal or conversational written text;
frequency of occurrence of ideographic character sequences, stroke
sequences or phonetic sequences when following a preceding character or
characters;
grammar of the surrounding sentence;
25 application context of current input sequence entry; and
recency of use or repeated use of stroke, phonetic or ideographic
character sequences by the user or within an application program.

37. (Currently Amended) The system of Claim 29, wherein said phonetic
30 sequences comprise single syllables.

38. (Currently Amended) The system of Claim 29 wherein said phonetic sequences comprise both single and multiple syllables.

5 39. (Currently Amended) The system of Claim 29 wherein said phonetic sequences comprise user generated sequences.

10 40. (Currently Amended) The system of Claim 39, wherein in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences.

41. (Currently Amended) The system of Claim 40, wherein said sequence of matching phonetic sequences is narrowed down through user interaction.

15 42. (Currently Amended) The system of Claim 40, wherein a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences.

20 43. (Currently Amended) The system of Claim 42, wherein a sequence of matching ideographic character sequences is narrowed down through user interaction.

25 44. (Currently Amended) The system of Claim 35, further comprising:
means for changing the associated priority of the matching phonetic sequence and the sequence of ideographic characters once an ideographic character sequence is selected.

30 45. (Currently Amended) The system of Claim 29, wherein the user can specify a particular tone for the phonetic syllable.

46. (Currently Amended) The system of Claim 29, wherein one of said plurality of inputs is associated with a special wildcard input that is associated with any or all tones.

5 47. (Currently Amended) The system of Claim 29, wherein the user can specify an explicit ideographic character separator.

48. (Currently Amended) The system of Claim 29, wherein once the user enters a sequence of phonetic characters, the user is returned a sequence of phonetic
10 sequences of exact matches and predictions that partially match.

49. (Currently Amended) The system of Claim 48, wherein said sequence is ordered according to the frequency of use based on a linguistic model.

15 50. (Currently Amended) The system of Claim 49, wherein said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of radical;

20 alphabetical order;

frequency of occurrence of phonetic sequences or ideographic character sequences in formal or conversational written text;

frequency of occurrence of phonetic sequences or ideographic when following a preceding character or characters;

25 grammar of the surrounding sentence;

application context of current character sequence entry; and

recency of use or repeated use of phonetic sequences by the user or within an application program.

30 51. (Currently Amended) The system of Claim 29, wherein once the user has selected a sequence of ideographic characters, the user is presented with a list of sequences of one or more ideographic characters.

52. (Currently Amended) The system of Claim 51, wherein said list of sequences is ordered according to the frequency of use based on a linguistic model.

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53. (Currently Amended) The system of Claim 52, where said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of ideograph;

10 radical and number of strokes of radical;

alphabetical order;

frequency of occurrence of ideographic characters in formal or conversational written text;

15 frequency of occurrence of ideographic characters when following a preceding character or characters;

grammar of the surrounding sentence;

application context of current character entry; and

recency of use or repeated use of ideographic characters by the user or within an application program.

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54. (Currently Amended) The system of Claim 29, wherein one of said plurality of inputs is associated with a special wildcard input that is associated with zero or one of any of said strokes and said phonetic characters.

25 55. (Currently Amended) The system of Claim 29, wherein one of said plurality of inputs is associated with a special wildcard input that is associated with zero or one of said phonetic characters.

30 56. (Currently Amended) A computer usable medium containing instructions in computer readable form for carrying out a process for receiving input sequence entered by a user and generating a phrase comprising one or more ideographic

characters as an output, said process for ~~Chinese text entry~~, said process comprising the steps of:

(a) entering an input sequence into a user input device, wherein said user input device comprises:

5 a reduced keyboard input device having a plurality of input means,
each of said input means being associated with at least one of a plurality
of strokes and a plurality of phonetic characters, and an input sequence
being generated each time when an input means is selected by a user,
10 wherein the generated input sequence has an interpretation that is
ambiguous due to the plurality of strokes or phonetic characters
associated with each input means ~~into said user input device, wherein
said user selection of said input means is alternatively associated with at
least one said plurality of strokes and said plurality of phonetic characters;~~
 ~~wherein one of said input sequence is associated with a special~~
15 ~~wildcard input that is associated with zero or one of any of said strokes
and said phonetic characters;~~

~~data comprising a plurality of input sequences and, associated with
each input sequence; an input method specific database containing a
plurality of input sequences and, associated with each input sequence, at
20 least one of a set of phonetic sequences whose spellings correspond to
the input sequence~~ corresponding to input sequences and a set of stroke
phonetic sequences corresponding to the input sequences; and

 an ideographic sequence database associated with both phonetic
sequences and stroke sequences, said ideographic sequence database
25 containing a set of ideographic ~~character~~ sequences, wherein each
ideographic characters ~~contains an ideographic index, a plurality of stroke
indices to corresponding stroke sequences and a plurality of phonetic
indices to corresponding sequences~~ each sequence representing a
phrase comprising two or more ideographic characters;

30 (b) comparing an input sequence using said input method specific
database and finding one or more stroke or phonetic sequences corresponding
to the input sequence;

(c) converting at least one
~~said matching stroke indices associated with said matching stroke entries~~
~~to matching ideographic indices; and~~

~~said matching phonetic indices associated with said matching phonetic~~
5 ~~entires to matching ideographic indices; said found stroke or phonetic sequences~~
~~to one or more corresponding sequences representing phrases comprising two~~
~~or more ideographic characters using said ideographic sequence database; and~~

(d) ~~retrieving matching ideographic character sequences with said~~
~~ideographic database by said matching ideographic indices; and~~

10 ~~(e) optionally displaying one or more said matched stroke or phonetic~~
~~sequences and one or more phrases corresponding to said found stroke or~~
~~phonetic sequences.~~

15 57. (cancelled)

58. (Currently Amended) The medium of Claim 57, wherein said stroke input
system is a five-stroke or an eight-stroke system.

20 59. (cancelled)

60. (Currently Amended) The medium of Claim 59, wherein said phonetic input
system is a Pinyin system or a Zhuyin system.

25 61. (cancelled) .

62. (Currently Amended) The medium of Claim 56, wherein the process further
comprises the step of:

prioritizing stroke or phonetic sequences that match an input sequence
and prioritizing ideographic character sequences that match a stroke or phonetic
30 sequence according to a linguistic model.

63. (Currently Amended) The medium of Claim 62, wherein said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

5 radical and number of strokes of a radical;

alphabetical order;

frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences in formal, conversational written, or conversational spoken text;

10 frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences when following a preceding character or characters;

grammar of the surrounding sentence;

application context of current input sequence entry; and

15 recency of use or repeated use of stroke, phonetic or ideographic character sequences by the user or within an application program.

64. (Currently Amended) The medium of Claim 56, wherein said phonetic sequences comprise single syllables.

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65. (Currently Amended) The medium of Claim 56, wherein said phonetic sequences comprise single and multiple syllables.

66. (Currently Amended) The medium of Claim 56, wherein said phonetic sequences comprise user generated sequences.

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67. (Currently Amended) The medium of Claim 66, wherein in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences.

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68. (Currently Amended) The medium of Claim 67, wherein said sequence of matching phonetic sequences is narrowed down through user interaction.

5 69. (Currently Amended) The medium of Claim 67, wherein a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences.

10 70. (Currently Amended) The medium of Claim 69, wherein a sequence of matching ideographic character sequences is narrowed down through user interaction.

71. (Currently Amended) The medium of Claim 62, wherein the process further comprises the step of:

15 once an ideographic character sequence is selected, changing the associated priority of said matching phonetic sequence and sequence of ideographic characters.

20 72. (Currently Amended) The medium of Claim 56, wherein the user can specify an explicit ideographic character separator.

73. (Currently Amended) The medium of Claim 56, wherein the process further comprises the step of:

25 when the user enters a sequence of phonetic characters, returning a sequence of phonetic sequences of exact matches and predictions that partially match.

74. (Currently Amended) The medium of Claim 73, wherein said sequence of phonetic sequences is ordered according to a linguistic model.

30 75. (Currently Amended) The medium of Claim 74, wherein said linguistic model comprises at least one of:

number of total keystrokes in an ideograph;

radical of an ideograph;

radical and number of strokes of radical;

alphabetical order;

frequency of occurrence of phonetic sequences or ideographic character

5 sequences in formal or conversational written text;

frequency of occurrence of phonetic sequences or ideographic when
following a preceding character or characters;

grammar of the surrounding sentence;

application context of current character sequence entry; and

10 recency of use or repeated use of phonetic sequences by the user or
within an application program.

76. (Currently Amended) The medium of Claim 56, wherein the process further
comprises the step of:

15 once the user has selected a sequence of ideographic characters,
presenting the user with a list of sequences of one or more ideographic
characters.

77. (Currently Amended) The medium of Claim 76, wherein said list of
20 sequences is ordered according to a linguistic model.

78. (Currently Amended) The medium of Claim 77, wherein said linguistic
model comprises at least one of:

number of total keystrokes in an ideograph;

25 radical of an ideograph;

radical and number of strokes of radical;

alphabetical order;

frequency of occurrence of ideographic characters in formal or
conversational written text;

30 frequency of occurrence of ideographic characters when following a
preceding character or characters;

grammar of the surrounding sentence;

application context of current character entry; and
recency of use or repeated use of ideographic characters by the user or
within an application program.

5 79. (Currently Amended) The medium of Claim 56, wherein the user can enter
partial syllables for each of the multiple syllable words.

80. (Currently Amended) The medium of Claim 79, wherein the number of
keystrokes for each partial syllable is one.

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81. (Currently Amended) The medium of Claim 56, wherein one of said plurality
of inputs is associated with a special wildcard input that is associated with zero
or one of any of said strokes and said phonetic characters.

15 82. (cancelled)